

PAT-NO: JP359067021A  
DOCUMENT-IDENTIFIER: JP 59067021 A  
TITLE: PREPARATION OF STYRENE RESIN FOAM MOLDED  
PRODUCT  
PUBN-DATE: April 16, 1984

INVENTOR-INFORMATION:  
NAME  
KITANI, SATSUKI

ASSIGNEE-INFORMATION:	COUNTRY
NAME	
SEKISUI PLASTICS CO LTD	N/A
ESUREN KAKO KK	N/A
KITANI SATSUKI	N/A

APPL-NO: JP57176791  
APPL-DATE: October 6, 1982

INT-CL (IPC): B29D027/00

US-CL-CURRENT: 264/45.4

ABSTRACT:

PURPOSE: To contrive to save energy for molding styrene resin molded product by reducing heating temperature and time through such an arrangement wherein only the surfaces of foaming particles are made to become such condition wherein they tend to easily fuse and adhere by covering them with a mixture of a solvent and a nonsolvent of styrene resin immediately before foam molding is carried out, and then in a metal mold, those foaming particles are caused to foam and to fuse and adhere to each other.

CONSTITUTION: A solvent of styrene resin shall be such that when

resin  
foaming particles are immersed in it for 30min at 60&deg;C, foaming particles  
dissolve or inflate and change their shape, and a representative solvent of  
this type is n-heptane. A nonsolvent of styrene resin shall be such that when  
foaming particles are processed under the same condition, they don't change  
their shape at all, and a representative substance is fluidic paraffin. It is  
required that a solvent and a nonsolvent, when they are mixed at 80&deg;C,  
dissolve each other and form a uniform phase. The rate of mixing is within the  
range of  $99 \pm 0.01$  of a nonsolvent for 1 part of a solvent. If the amount of  
a mixture is larger than  $0.5 \pm 0.1$ pt.wt. for 100pts.wt. of foaming  
particles, foaming particles tend to adhere to each other and form lumps. If  
it is less than 0.1pt.wt., foaming particles are not uniformly covered. In a  
container wherein prefoaming is carried out, it is preferable that prefoaming  
is carried out simultaneously when foaming particles are covered by the  
mixture.

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DERWENT-ACC-NO: 1984-131178

DERWENT-WEEK: 198421

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TITLE: Styrene! resinous foam article prodn. -  
comprises preparing organic soln. of solvent and non-  
solvent, coating on foamable styrene! resin beads,  
introducing to mould and heating

PATENT-ASSIGNEE: ESUREN KAKO KK[ESURN] , SEKISUI PLASTICS CO  
LTD[SEKP]

PRIORITY-DATA: 1982JP-0176791 (October 6, 1982)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES MAIN-IPC		
<u>JP 59067021 A</u>	April 16, 1984	N/A
006 N/A		

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
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JP 59067021A	N/A	1982JP-0176791
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ABSTRACTED-PUB-NO: JP 59067021A

BASIC-ABSTRACT:

Prodn. comprises (i) preparing homogeneously-mixed organic soln. of solvent and non-solvent for styrene resin which are soluble in each other; (ii) coating foamable beads of styrene resin with the soln.; (iii) introducing the coated beads into a mould contg. perforations or interstices; and (iv) heating them to expand and welded to each other to produce a foam article.

Pref. styrene resin is homopolymer of styrene or its derivs. (e.g.

alpha-methylstyrene), or copolymer of at least 50 wt.% styrene or its derivs.

and copolymerisable monomer (e.g. acrylonitrile and acrylic acid).  
Pref.

solvent for styrene resin is n-heptane, benzene, toluene, xylene, trichloroethane, dibutyl phthalate, etc., or their mixt. The non-solvent for

styrene resin is esp. liq. paraffin, wax, polyethylene wax, 1-4C alkanol,

ethylene-glycol, glycerine, stearic acid, Ca stearate, etc., or their mixt.

The organic soln. of solvent and non-solvent for styrene resin penetrates only

into the surface layer of beads to lower their welding temp. so that the beads

are welded to each other with less energy at expansion.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: POLYSTYRENE RESINOUS FOAM ARTICLE PRODUCE COMPRISE  
PREPARATION

POLYSTYRENE RESIN  
ORGANIC SOLUTION SOLVENT NON SOLVENT COATING FOAM  
BEAD INTRODUCING MOULD HEAT

DERWENT-CLASS: A13 A32

CPI-CODES: A04-C02C; A08-M01; A11-B05D; A11-B06C; A12-B07B; A12-S01;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 0122U; 0508U ; 1145U ; 1563U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 3003 0037 0211 0222 0224 0060 0229 0239 0243 2307 2318  
2447 2511

2536 2540 2541 2545 2575 0297 0304 0318 0299 0376 0411

Multipunch Codes: 014 03- 039 041 046 047 055 056 058 06- 075 13- 15-  
18- 303

311 316 393 42- 44& 448 456 475 476 491 50- 532 537 688 014 03- 034  
039 041 046

047 055 06- 072 074 075 076 13- 15- 18- 27& 303 311 316 393 42- 44&  
448 456 475

476 491 50- 532 537 688 014 03- 034 039 041 046 047 055 06- 074 075  
076 13- 15-

18- 27& 303 311 316 393 42- 44& 448 456 475 476 491 50- 532 537 688  
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041 046 047 055 056 058 06- 075 13- 15- 18- 303 311 316 393 42- 44&  
448 456 475

476 491 50- 532 537 688 014 03- 034 039 041 046 047 055 06- 072 074